IAP20 Rec'd PC+/PTO 393302006

SEQUENCE LISTING

<11		Kimu Tsuc Nana Tomi Kawa	hiya mi, mats	, Ma Masa u, T	sayu hiko akas									
<12	0>	Cell	Dea	th I	nduc	ing .	Agen	ts						
<13	0 >	1487	5-16	6US1										
<150 <150		PCT/ 2004			1850	1								
		JP 2 2003			58									
<160	0 >	20												
<170	0 >	Pate	ntIn	ver	sion	3.1								
<210 <211 <212 <213	1 > 2 >	1 1572 DNA Mus	musc	ulus										
<220 <221 <222 <223	1 > 2 >	CDS (14)	(1	561)										
<400	-	1 tcc a	I		-		Ser :				Phe 1		ctg (Leu !	49
		gca Ala 15												97
		gtg Val	_			_			_	_	-	_	_	145
		acc Thr												193
	-	gga Gly		_								_	_	241
		tac Tyr												289

			_		-	tac Tyr		_		_		-				337
						tgt Cys 115										385
						aca Thr										433
						ggc Gly		_			-			_	_	481
	_		-		-	tct Sėr				_	-				-	529
						agt Ser										577
						tgg Trp 195			_				_	-		625
	_			-		agt Ser		_								673
						gag Glu										721
_			_	_		cca Pro		_			_			-	_	769
						ggc Gly										817
						cag Gln 275										865
						tct Ser										913
-						gtg Val		-				-			_	961
tgg	att	gga	tgg	att	ttt	cct	gga	gat	gat	act	act	gat	tac	aat	gag	1009

Trp	Ile	Gly	Trp 320	Ile	Phe	Pro	Gly	Asp 325	Asp	Thr	Thr	Asp	Tyr 330	Asn	Glu	
					acc Thr											1057
					agc Ser											1105
	_	_		_	gac Asp 370	_		_				_				1153
					ggt Gly											1201
			_		att Ile	_			_	-		-		-	tct Ser	1249
_					aag Lys	_				_			_			1297
_	-		-		tgg Trp		_	_	_							1345
				_	aca Thr 450			_	-			_			_	1393
	-		-		tct Ser									_	_	1441
					gct Ala											1489
					ggc Gly											1537
				gat Asp	aag Lys	tga	taa	gcg	geege	caa t	:					1572

<210> 2 <211> 514

<212> PRT <213> Mus musculus

<400> 2 Met Arg Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Ile Thr Ala Gly Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn Glu Lys Phe Arg Gly Lys Thr Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Ile Leu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Met 100 105 110 Tyr Phe Cys Val Arg Ser Asp Asp Phe Asp Tyr Trp Gly Gln Gly Thr 120 Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser 135 Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met 150 155 Ser Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser 165 170 Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr 200 195 Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser 215 Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr 225 230 Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Gly 250 Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gln Val 265 Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val 275 280 Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Phe Ile 295 300

His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Trp 305 310315 310 315

Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn Glu Lys Phe Arg Gly 325 330 335

Lys Thr Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Ile Leu 340 345 350

Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Met Tyr Phe Cys Val Arg 355 360 365

Ser Asp Asp Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser 370 375 380

Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser 385 390 395 400

Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
405 410 415

Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met 420 425 430

His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro Lys Leu Trp Ile Tyr 435 440 445

Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr Arg Phe Ser Gly Ser 450 455 460

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu 465 470 475 480

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr Ser Tyr Pro Pro Thr 485 490 495

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Asp Tyr Lys Asp Asp Asp 500 510

Asp Lys

<210> 3

<211> 5

<212> PRT

<213> Mus musculus

<400> 3

Asp Tyr Phe Ile His

<210> 4

<211> 17

<212> PRT

```
<213> Mus musculus
<400> 4
Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn Glu Lys Phe Arg
                                    10
Gly
<210> 5
<211> 6
<212> PRT
<213> Mus musculus
<400> 5
Ser Asp Asp Phe Asp Tyr
<210> 6
<211> 10
<212> PRT
<213> Mus musculus
<400> 6
Ser Ala Ser Ser Ser Val Ser Tyr Met His
            5
<210> 7
<211> 7
<212> PRT
<213> Mus musculus
<400> 7
Ser Thr Ser Asn Leu Ala Ser
<210> 8
<211> 9
<212> PRT
<213> Mus musculus
<400> 8
Gln Gln Arg Thr Ser Tyr Pro Pro Thr
<210> 9
<211> 402
<212> DNA
<213> Mus musculus
```

<220>

<221> <222> <223>	(1)	(40	2)												
<400> atg co Met A: 1	ga tg														48
gtc ca Val H															96
cct ge Pro G															144
aca ga Thr As	sp Ty							-				_			192
gaa to Glu T: 65															240
gag a	_			_			_		-	-					288
aca go Thr A															336
tat ti Tyr Pl		s Val													384
act ct Thr Le		-													402
<210><211><212><212><213>	134 PRT	musc	ulus												
<400> Met And		Ser	Trp 5	Ile	Phe	Leu	Phe	Leu 10	Leu	Ser	Ile	Thr	Ala 15	Gly	
Val H	is Cy:	Gln 20	Val	Gln	Leu	Gln	Gln 25	Ser	Gly	Pro	Glu	Leu 30	Val	Lys	
Pro G	ly Ala 35	a Ser	Val	Lys	Met	Ser 40	Cys	Lys	Ala	Ser	Gly 45	Tyr	Thr	Phe	

50	ne Ile His	Trp Val 55	Lys Gln	Arg Pro 60	Gly Gln	Gly	Leu
Glu Trp Ile Gl 65	y Trp Ile 70	Phe Pro	Gly Asp	Asp Thr 75	Thr Asp	Tyr	Asn 80
Glu Lys Phe Ar	g Gly Lys 85	Thr Thr	Leu Thr 90	Ala Asp		Ser 95	Ser
Thr Ala Tyr Il		Ser Ser	Leu Thr 105	Ser Glu	Asp Ser 110	Ala	Met
Tyr Phe Cys Va	ıl Arg Ser	Asp Asp 120	Phe Asp	Tyr Trp	Gly Gln 125	Gly	Thr
Thr Leu Thr Va	al Ser Ser						
<210> 11 <211> 384 <212> DNA <213> Mus mus	culus					·	
<220> <221> CDS <222> (1)(3 <223>	384)						
<400> 11 atg cat ttt ca			_	_	_	-	
			_	_	_	-	
atg cat ttt ca Met His Phe Gl	n Val Gln 5 cc aga gga er Arg Gly	Ile Phe	Ser Phe 10 gtt ctc	Leu Leu acc cag	Ile Ser	Ala 15 gca	Ser atc 9
atg cat ttt ca Met His Phe Gl 1 gtc atc atg to Val Ile Met Se	n Val Gln 5 cc aga gga er Arg Gly ct cca ggg	<pre>caa att Gln Ile gag aag</pre>	Ser Phe 10 gtt ctc Val Leu 25 gtc acc	Leu Leu acc cag Thr Gln ata acc	<pre>tcg cca Ser Pro 30 tgc agt</pre>	Ala 15 gca Ala gcc	ser atc 9 Ile agc 14
atg cat ttt ca Met His Phe Gl 1 gtc atc atg tc Val Ile Met Se 20 atg tct gca tc Met Ser Ala Se	n Val Gln 5 cc aga gga er Arg Gly ct cca ggg er Pro Gly et tac atg	caa att Gln Ile gag aag Glu Lys 40 cac tgg	Ser Phe 10 gtt ctc Val Leu 25 gtc acc Val Thr	Leu Leu acc cag Thr Gln ata acc Ile Thr cag aag	tcg cca Ser Pro 30 tgc agt Cys Ser 45	Ala 15 gca Ala gcc Ala	ser atc 9 Ile agc 14 Ser ttt 193
atg cat ttt ca Met His Phe Gl 1 gtc atc atg tc Val Ile Met Se 20 atg tct gca tc Met Ser Ala Se 35 tca agt gta ag Ser Ser Val Se	n Val Gln 5 c aga gga r Arg Gly c cca ggg r Pro Gly t tac atg r Tyr Met	Ile Phe caa att Gln Ile gag aag Glu Lys 40 cac tgg His Trp 55 agc aca	Ser Phe 10 gtt ctc Val Leu 25 gtc acc Val Thr ttc cag Phe Gln tcc aac	Leu Leu acc cag Thr Gln ata acc Ile Thr cag aag Gln Lys 60 ctg gct	tcg cca Ser Pro 30 tgc agt Cys Ser 45 cca ggc Pro Gly	Ala 15 gca Ala gcc Ala act Thr	ser atc 9 Ile agc 14 Ser ttt 192 Phe cct 240
atg cat ttt ca Met His Phe Gl 1 gtc atc atg tc Val Ile Met Se 20 atg tct gca tc Met Ser Ala Se 35 tca agt gta ag Ser Ser Val Se 50 ccc aaa ctc tg Pro Lys Leu Tr	n Val Gln 5 c aga gga er Arg Gly ct cca ggg er Pro Gly et tac atg er Tyr Met eg att tat ep Ile Tyr 70 et ggc agt	Ile Phe caa att Gln Ile gag aag Glu Lys 40 cac tgg His Trp 55 agc aca Ser Thr gga tct	Ser Phe 10 gtt ctc Val Leu 25 gtc acc Val Thr ttc cag Phe Gln tcc aac Ser Asn ggg acc	Leu Leu acc cag Thr Gln ata acc Ile Thr cag aag Gln Lys 60 ctg gct Leu Ala 75 tct tac	tcg cca Ser Pro 30 tgc agt Cys Ser 45 cca ggc Pro Gly tct gga Ser Gly	Ala 15 gca Ala gcc Ala act Thr gtc Val	ser atc 99 Ile agc 14 Ser ttt 192 Phe cct 240 Pro 80 atc 280

384 acg agt tat cca ccc acg ttc ggc tcg ggg aca aag ttg gag ata aaa Thr Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys 115 120 <210> 12 <211> 128 <212> PRT <213> Mus musculus <400> 12 Met His Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser 10 Val Ile Met Ser Arg Gly Gln Ile Val Leu Thr Gln Ser Pro Ala Ile 20 25 Met Ser Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe 55 Pro Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys 115 120 <210> 13 <211> 792 <212> DNA <213> Mus musculus <220> <221> CDS <222> (1)..(792)<223> <400> 13 atg cga tgg agc tgg atc ttt ctc ttc ctc ctg tca ata act gca ggt 48 Met Arg Trp Ser Trp Ile Phe Leu Phe Leu Ser Ile Thr Ala Gly 5 10 gtc cat tgc cag gtc cag ttg cag cag tct gga cct gag ctg gtg aaq 96 Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys 20 25 cct ggg gct tca gtg aag atg tct tgt aag gct tct ggc tac acc ttc 144

Pro	Gly	Ala 35	Ser	Val	Lys	Met	Ser 40	Cys	Lys	Ala	Ser	Gly 45	Tyr	Thr	Phe	
													cag Gln			192
													gat Asp			240
													tcc Ser			288
													tct Ser 110			336
		-	_		_	_	_		-				cag Gln			384
													ggt Gly			432
													gca Ala			480
													gcc Ala			528
													act Thr 190			576
													gtc Val			624
													aca Thr			672
													caa Gln			720
													ata Ile			768
		-		gac	gat Asp		tga									792

<210> 14

<211> 263

<212> PRT

<213> Mus musculus

<400> 14

Met Arg Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Ile Thr Ala Gly
1 5 10 15

Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys 20 25 30

Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe 35 40 45

Thr Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu 50 55 60

Glu Trp Ile Gly Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn 65 70 75 80

Glu Lys Phe Arg Gly Lys Thr Thr Leu Thr Ala Asp Lys Ser Ser Ser Ser 90 95

Thr Ala Tyr Ile Leu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Met 100 105 110

Tyr Phe Cys Val Arg Ser Asp Asp Phe Asp Tyr Trp Gly Gln Gly Thr
115 120 125

Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser 130 135 140

Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met 145 150 155 160

Ser Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser 165 170 175

Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro 180 . 185 190

Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr 195 200 205

Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser 210 215 220

Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr 225 230 235 240

Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Asp 245 250 255

Tyr Lys Asp Asp Asp Lys

```
<210> 15
<211>
      35
<212>
      DNA
<213> Artificial
<220>
<223>
      an artificially synthesized primer sequence
<400> 15
Cctgaattcc accatgcgat ggagctggat ctttc
                                                                     35
<210> 16
<211>
      48
<212> DNA
<213> Artificial
<220>
<223> an artificially synthesized primer sequence
<400> 16
accgccagag ccacctccgc ctgaaccgcc tccacctgag gagactgt
                                                                      48
<210> 17
<211>
      57
<212>
      DNA
<213> Artificial
<220>
<223> an artificially synthesized primer sequence
<400> 17
ttcaggcgga ggtggctctg gcggtggcgg aagccaaatt gttctcaccc agtcgcc
                                                                    57
<210> 18
<211> 63
<212> DNA
<213> Artificial
<220>
     an artificially synthesized primer sequence
<223>
accggatccg ccgccaccac tgccaccacc tccttttatc tccaactttg tccccqagcc
                                                                   63
gaa
<210>
      19
<211>
      50
<212>
      DNA
<213> Artificial
```

<220> <223>	an artificially synthesized primer sequence	
<400> ggcgga	19 tccg gtggcggtgg ctcacaggtc cagttgcagc agtctggacc	50
<210> <211> <212> <213>	68	
<220> <223>	an artificially synthesized primer sequence	
<400> attgcg	20 gccg cttatcactt atcgtcgtca tccttgtagt cttttatctc caactttgtc	60
cccgag	CC	68

IAP20 Rec'd PCT/PTO J 9 JUN 2006

SEQUENCE LISTING

<110>	CHUGAI SEIYAKU KABUSHIKI KAISHA		
<120>	Cell Death Inducing Agent		
<130>	C1-A0323P		
<150> <151>	JP 2003-415758 2003-12-12		
<160>	20		
<170>	PatentIn version 3.1		
⟨210⟩	1		
<211>	1572		
⟨212⟩	DNA .	*	•
⟨213⟩	Mus musculus	1.	
<220>			
<221>	CDS	•	
<222>	(14) (1561)		
<223>			
<400>	1		•
cctgaat	ttcc acc atg cga tgg agc tgg atc ttt ctc t	tc ctc ctg tca	49
	Met Arg Trp Ser Trp Ile Phe Leu 1 5	Phe Leu Leu Ser 10	
	t gca ggt gtc cat tgc cag gtc cag ttg cag r Ala Gly Val His Cys Gln Val Gln Leu Glr 15 20		97
	g gtg aag cct ggg gct tca gtg aag atg tct u Val Lys Pro Gly Ala Ser Val Lys Met Ser	•	145

	30					35					40					
														g cct Arg P 6		193
													Asp .	t act Asp T 75		241
												Leu		a gad Ala A		289
														t gag Ser (337
_							Val							tgg Tyr		385
	Gln					Thr					Gly	•		sa gg Ser (433
					Gly					Ile				ag tc Gln 155		481
				Ser					Glu					cc tg Thr		529
agt	gcc	agc	tca	agt	gta	agt	tac	atg	cac	tgg	ttc	cag c	ag a	ag cc	a	577

Ser Ala Ser Ser Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro

		175					180					185			
										٠					
ggc	act	ttt	ccc	aaa	ctc	tgg a	att 1	tat a	agc a	ıca t	сс а	ac c	tg g	ct to	et
Gly	Thr	Phe	Pro	Lys	Leu	Trp	Ile	Tyr	Ser	Thr	Ser	Asn	Leu	Ala	Ser
	190					195	-			٠	200				
	•														

gga gtc cct act cgc ttc agt ggc agt gga tct ggg acc tct tac tct Gly Val Pro Thr Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser

ctc aca atc agc cga atg gag gct gaa gat gct gcc act tat tac tgc - 721 Leu Thr Ile Ser Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys

cag caa agg acg agt tat cca ccc acg ttc ggc tcg ggg aca aag ttg Gln Gln Arg Thr Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu

gag ata aaa gga ggt ggt ggc agt ggt ggc ggc gga tcc ggt ggc ggt Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly

ggc tca cag gtc cag ttg cag cag tct gga cct gag ctg gtg aag cct Gly Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro

ggg gct tca gtg aag atg tct tgt aag gct tct ggc tac acc ttc aca Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr

gac tac ttt ata cac tgg gtg aaa cag agg cct gga cag gga ctt gaa Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu

tgg att gga tgg att ttt cct gga gat gat act act gat tac aat gag Trp Ile Gly Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn Glu 325

320

330

_											Lys			c aca Ser Th	ır	1057
_														g tat Met Ty		1105
	_					Asp								c act Thr T		1153
					Gly									et ggc Ser G 395		1201
				Gln										tg tct Met S		1249
			Gly					Ile						ca agt Ser S		1297
_							Gln							cc aaa Pro L		1345
	Trp					Ser					Gly			ct cgo Thr A		1393
ttc	agt	ggc	agt	gga	tct	ggg	acc	tct ·	tac ·	tct	ctc a	ica a	tc a	gc cga	a	1441

Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg

atg gag gct gaa gat gct gcc act tat tac tgc cag caa agg acg agt Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr Ser tat cca ccc acg ttc ggc tcg ggg aca aag ttg gag ata aaa gac tac Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Asp Tyr aag gat gac gat aag tga taa gcggccgcaa t Lys Asp Asp Asp Lys <210> <211> **PRT** <212> <213> Mus musculus <400> Met Arg Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Ile Thr Ala Gly Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys .25 Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu

Glu Trp Ile Gly Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn

- Glu Lys Phe Arg Gly Lys Thr Thr Leu Thr Ala Asp Lys Ser Ser Ser Ser 85 90 95
- Thr Ala Tyr Ile Leu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Met 100 105 110
- Tyr Phe Cys Val Arg Ser Asp Asp Phe Asp Tyr Trp Gly Gln Gly Thr 115 120 125
- Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser 130 135 140
- Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met 145 150 155 160
- Ser Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser 165 170 175
- Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro 180 185 190
- Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr
 195 200 205
- Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser 210 215 220
- Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr 225 230 235 240
- Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Gly 245 250 255
- Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val
 260 265 270

- Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val 275 280 285
- Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr Phe Ile 290 295 300
- His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Trp 305 310 315 320
- Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn Glu Lys Phe Arg Gly 325 330 335
- Lys Thr Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Ile Leu 340 345 350
- Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Met Tyr Phe Cys Val Arg 355 360 365
- Ser Asp Asp Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser 370 375 380
- Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser 385 390 395 400
- Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
 405 410 415
- Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 420 425 430
- His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro Lys Leu Trp Ile Tyr
 435
 440
 445
- Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr Arg Phe Ser Gly Ser 450 455 460

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu 465 470 475 480

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr Ser Tyr Pro Pro Thr 485 490 495

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Asp Tyr Lys Asp Asp Asp 500 505 510

Asp Lys

<210> 3

<211> 5

<212> PRT

<213> Mus musculus

<400> 3

Asp Tyr Phe Ile His

1

5

⟨210⟩ 4

<211> 17

<212> PRT

<213> Mus musculus

<400> 4

Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn Glu Lys Phe Arg

1 5 10 15

Gly

```
<210> 5
<211> 6
<212> PRT
<213> Mus musculus
<400> 5
Ser Asp Asp Phe Asp Tyr
1
              5
<210> 6
<211> 10
<212> PRT
<213> Mus musculus
<400> 6
Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5
<210> 7
<211> 7
<212> PRT
<213> Mus musculus
<400> 7
Ser Thr Ser Asn Leu Ala Ser
1
<210> 8
<211> 9
<212> PRT
<213> Mus musculus
```

<400> 8 ...

Gln Gln Arg Thr Ser Tyr Pro Pro Thr

70

65

5 1 <210> 9 <211> 402 <212> DNA <213> Mus musculus <220> <221> **CDS** (1)...(402)<222> <223> <400> atg cga tgg agc tgg atc ttt ctc ttc ctc ctg tca ata act gca ggt 48 Met Arg Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Ile Thr Ala Gly 15 10 1 gtc cat tgc cag gtc cag ttg cag cag tct gga cct gag ctg gtg aag 96 Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys 25 30 20 cct ggg gct tca gtg aag atg tct tgt aag gct tct ggc tac acc ttc 144 Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe 45 40 35 192 aca gac tac ttt ata cac tgg gtg aaa cag agg cct gga cag gga ctt Thr Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu 60 50 55 gaa tgg att gga tgg att ttt cct gga gat gat act act gat tac aat 240 Glu Trp Ile Gly Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn

75

gag	aag	ttc	agg	ggc	aag a	acc a	ica c	tg a	ct g	ca ga	ac aa	a to	c to	c ag	С	288
Glu	Lys	Phe	Arg	Gly 85	Lys	Thr	Thr	Leu	Thr 90	Ala	Asp	Lys		Ser 95	Ser .	
									icc t Thr			Asp				336
									gac t Asp							384
act	ctc	aca g	gtc t	cc t	ca											402
Thr	Leu 130	Thr	Val	Ser	Ser			, ·							;	
									٠.							
<210 <211 <212 <213	l> 2> :	10 134 PRT Mus	musci	ulus					٠	· .						
<400)>	10											•			
			Ser	Trp 5	Ile	Phe	Leu	Phe	Leu 10	Leu	Ser	Ile	Thr	Ala 15	Gly	
Val	His	Cys	Gln 20	Val	G1n	Leu	Gln	Gln 25	Ser	Gly	Pro	Glu	Leu 30	Val	Lys	
Pro	G1y	Ala 35	Ser	Val	Lys	Met	Ser	Cys	Lys	Ala	Ser	Gly 45	Tyr	Thr	Phe	
Thr	Asp 50	Tyr	Phe	Ile	His	Trp 55	Val	Lys	Gln	Arg	Pro 60	Gly	Gln	Gly	Leu	
C1.,	Twn	. T1a	G1 _w	Twn	Πa	Pho	Pro	G1 _v	Acn	Acn	Thr	Thr	Asn	Tur	Asn	

65		70		75		80
Glu Lys Phe	Arg Gly 85	Lys Thr	Thr Leu	Thr Ala A	Asp Lys Ser	Ser Ser 95
Thr Ala Tyr	Ile Leu 100	Leu Ser	Ser Leu 105	Thr Ser (Glu Asp Ser 110	Ala Met
Tyr Phe Cys	Val Arg	Ser Asp	Asp Phe	Asp Tyr	Trp Gly Gln 125	Gly Thr
Thr Leu Thr	Val Ser	Ser				
					•	
<210> 11 <211> 384 <212> DNA						
	nusculus					
<220> <221> CDS <222> (1). <223>	. (384)					
<400> 11						
atg cat ttt Met His Phe 1					ta atc agt g Leu Ile Ser	
gtc atc atg Val Ile Met					ag tcg cca g Gln Ser Pro 30	
					cc tgc agt g Thr Cys Ser	

tca agt gta agt tac atg cac tgg ttc cag cag aag cca ggc act ttt Ser Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe ccc aaa ctc tgg att tat agc aca tcc aac ctg gct tct gga gtc cct Pro Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro act cgc ttc agt ggc agt gga tct ggg acc tct tac tct ctc aca atc Thr Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile age ega atg gag get gaa gat get gee aet tat tae tge eag eaa agg Ser Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg acg agt tat cca ccc acg ttc ggc tcg ggg aca aag ttg gag ata aaa Thr Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys <210> <211> <212> PRT <213> Mus musculus <400> Met His Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser Val Ile Met Ser Arg Gly Gln Ile Val Leu Thr Gln Ser Pro Ala Ile

Met Ser Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser

Ser	Ser 50	Val	Ser	Tyr	Met	His 55	Trp	Phe	Gln	G1n	Lys 60	Pro	Gly	Thr	Phe	
Pro 65	Lys	Leu	Trp	Ile	Tyr 70	Ser	Thr	Ser	Asn	Leu 75	Ala	Ser	Gly	Val	Pro 80	
Thr	Arg	Phe	Ser	Gly 85	Ser	Gly	Ser	Gly	Thr 90	Ser	Tyr	Ser	Leu	Thr 95	Ile	÷
Ser	Arg	Met	Glu 100	Ala	Glu	Asp	Ala	Ala 105	Thr	Tyr	Tyr	Cys	Gln 110	Glń	Arg	
Thr	Ser	Tyr 115	Pro	Pro	Thr	Phe	Gly 120	Ser	Gly	Thr	Lys	Leu 125	Glu	Ile	Lys	
<21	ns ·	13														
<21·		792	•													-
<21		DNA		•												
<21		Mus 1	nusci	ılus								•				
<22	0> .															
<22		CDS	(= 0.	~\												
<22		(1)	(79)	2)									•			
<22	3>							*								
<40	0 >	13	•	•												
		tgg	agc	tgg	atc	ttt	ctc	ttc	ctc (ctg 1	tca a	ata a	ict g	ca g	gt	48
															Gly	
1				5					10					15		
_		tgc Cys													ag Lys	96
		-	20					25					30			

					tgt a Cys						144
					aaa o Lys		•				192
					gga g Gly				Tyr		240
					ctg a						288
					ctg a Leu 105						336
					ttt (Phe						384
	Thr				ggc g						432
Gly					ctc :		Ser				480
_			Glu		acc l			_		ca Ser	528

agt gta agt tac atg cac tgg ttc cag cag aag cca ggc act ttt ccc Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro 180 185 190	576
aaa ctc tgg att tat agc aca tcc aac ctg gct tct gga gtc cct act Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr 195 200 205	624
cgc ttc agt ggc agt gga tct ggg acc tct tac tct ctc aca atc agc Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser 210 215 220	672
cga atg gag gct gaa gat gct gcc act tat tac tgc cag caa agg acg Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr 225 230 235 240	720
agt tat cca ccc acg ttc ggc tcg ggg aca aag ttg gag ata aaa gac Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Asp 245 250 255	768
tac aag gat gac gat aag tga Tyr Lys Asp Asp Asp Lys 260	792
<210> 14 <211> 263 <212> PRT <213> Mus musculus	
<pre><400> 14 Met Arg Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Ile Thr Ala Gly 1 5 10 15</pre>	
Val His Cys Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys 20 25 30	

- Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe.
 35 40 45
- Thr Asp Tyr Phe Ile His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu 50 55 60
- Glu Trp Ile Gly Trp Ile Phe Pro Gly Asp Asp Thr Thr Asp Tyr Asn 65 70 75 80
- Glu Lys Phe Arg Gly Lys Thr Thr Leu Thr Ala Asp Lys Ser Ser Ser Ser Ser 90 95
- Thr Ala Tyr Ile Leu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Met 100 105 110
- Tyr Phe Cys Val Arg Ser Asp Asp Phe Asp Tyr Trp Gly Gln Gly Thr
 115 120 125
- Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser 130 135 140
- Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met 145 150 155 160
- Ser Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser 165 170 175
- Ser Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Phe Pro 180 185 190
- Lys Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Thr 195 200 205
- Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser 210 215 220

Arg Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Thr 225 230 235 240 Ser Tyr Pro Pro Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Asp 245 250 255 Tyr Lys Asp Asp Asp Lys 260 <210> 15 <211> 35 <212> DNA <213> Artificial <220> <223> an artificially synthesized primer sequence <400> 15 Cctgaattcc accatgcgat ggagctggat ctttc 35 <210> 16 <211> 48 <212> DNA ⟨213⟩ Artificial <220> an artificially synthesized primer sequence 16 <400> accgccagag ccacctccgc ctgaaccgcc tccacctgag gagactgt 48

<210> 17

<211>	57		•
<212>	DNA		
<213>	Artificial	,	
<220>		•	
<223>	an artificially synthesized primer sequence		
<400>	17		
ttcagg	scgga ggtggctctg gcggtggcgg aagccaaatt gttctcaccc agtcgc	>	57
		•	
•			
<210>	18	•	
<211>	63		
<212>	DNA	:	
<213>	Artificial		
		-	
<220>			
<223>	an artificially synthesized primer sequence	·	
<400>	18		60
accgga	atccg ccgccaccac tgccaccacc tccttttatc tccaactttg tccccg	agcc	60
			63
gaa			03
<210>	19	-	
<211> <212>	50 DNA		
<213>	\cdot		
\215/	M tillicial	-	
<220>			
<223>	an artificially synthesized primer sequence		
.2207			
<400>	19	•	
ggcgga	atocg gtggcggtgg ctcacaggtc cagttgcagc agtctggacc		50

<210>	20	
<211>	68	
<212>	DNA	
<213>	Artificial	
•		
<220>		
<223>	an artificially synthesized primer sequence	
<400>	20	
attgcgg	gccg cttatcactt atcgtcgtca tccttgtagt cttttatctc caactttgtc	60
		68